



Everyone's Smart
University

PMG 506 Advanced Project Management

Review: LECTURES 01, 02 & 03

**Eng. Dr. Akram Mustafa Suliman Ali,
PhD. AU, MSc. AAST, CEng CMarEng MIMarEST, PE, PMP®,
ASQ CSSBB, ISO Lead Auditor, NDT Level II,**



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

LECTURE 01 REVIEW

Introduction to APM and Initial Project Strategy

TYPES OF COST ESTIMATES



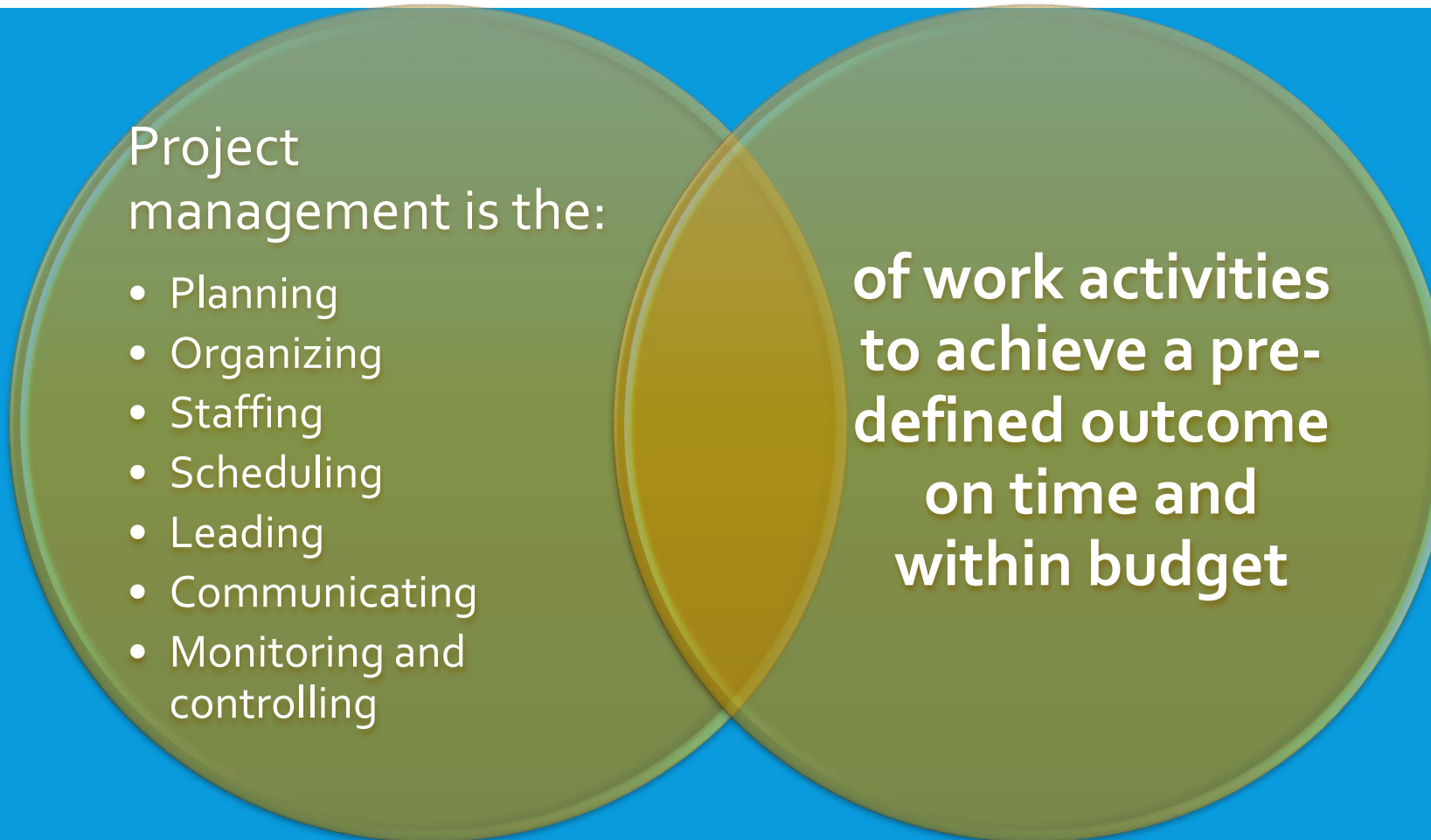
جامعة القصيم الذكية

Type/ Level	Description	Accuracy
Rough Order of Magnitude (ROM) or Order of Magnitude	Generally made early in the project. Developed without benefit of detailed data and often based on historical data, expert judgment, or a costing model.	-25% : +75%
Budgetary	Often used for appropriation purposes	-10% : 25%
Range of Estimate	Often used as an alternative to ROM where the accuracy of the estimate is not well known.	+/- 35%
Approximate Estimate	Based on more information than ROM estimates, but still lack the detail required for high accuracy. May be possible if the project is similar to previous ones with reliable historical data for costing or where a proven costing model is applicable	+/- 15%
Definitive Estimate (Control or Detailed Estimate)	Based of detailed information about the project work. Developed by estimating the cost for each work package in the WBS	-5%
Phased Estimate (Rolling Wave or Moving Wave Estimate)	Allows the use of ROM or approximate estimates for some later parts of the work. While work that must be done earlier in the project life cycle is estimated at the definitive level.	+/- 5% : +/- 15% in the window closest to present time, +/- 35% farther in the future

WHAT IS A PROJECT

- **A PROJECT** is work that has:
 1. a specified beginning and ending, and
 2. that produces a unique product

WHAT IS PROJECT MANAGEMENT?



PROJECT VS ONGOING WORK

Ongoing Work	Project Work
Repeating process	One of a kind, temporary process
No clear beginning or ending	Clear beginning and ending
Same output created each time the work is performed	Output is created only once
Everyone in work group performs similar functions	Requires multi-disciplined team

THE PROJECT MANAGEMENT LIFE CYCLE



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Every project is unique, but they progress through the same phases:-

- Project Initiating
- Project Planning
- Project Implementation
- Project Close-Out

PROJECT MANAGEMENT DELIVERABLES

- In each phase, project management deliverables are created as an output of project management activities.
- The deliverables from one project phase are used as tools to manage the next project phases.
- Project management deliverables are not to be confused with product deliverables created during the project.

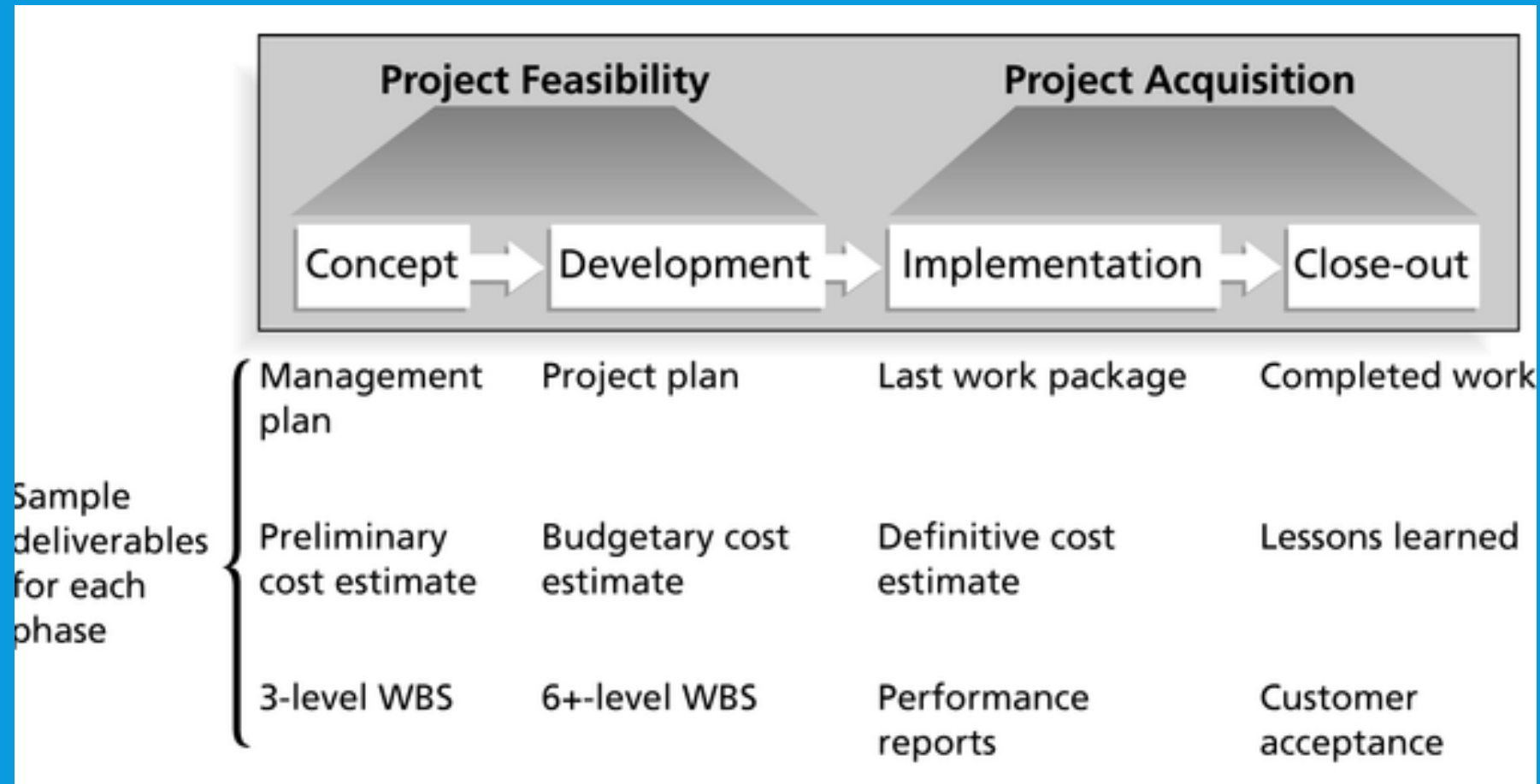
PM PHASES & DELIVERABLES

Phase	Deliverables
INITIATION	
Defining and Scoping Identifying Stakeholders Team Building Making the Rules	Project charter Stakeholder Responsibility Matrix Statement Of Work Team Charter
PLANNING	
Budgeting Scheduling Activity Planning	Deliverables Breakdown Structure Work Breakdown Structure Detailed Responsibility Matrix Schedule Budget Activity Plan
IMPLEMENTATION	
Working the Plan Monitoring Progress Taking Corrective Action Reporting Progress	Status/ Progress Reports Earned Value Analysis Change Requests
CLOSE-OUT	
Handing Off to End User Closing Down Operations Reporting Outcomes	Final Report Personnel Evaluations

PHASES OF THE PROJECT LIFE CYCLE



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY



ROLE OF PROJECT MANAGER

- Leader
- Planner
- Organizer
- Controller
- Communicator
- Negotiator
- Peace Maker
- Advocate
- Risk Manager

PROJECT MANAGER'S SKILLS SET

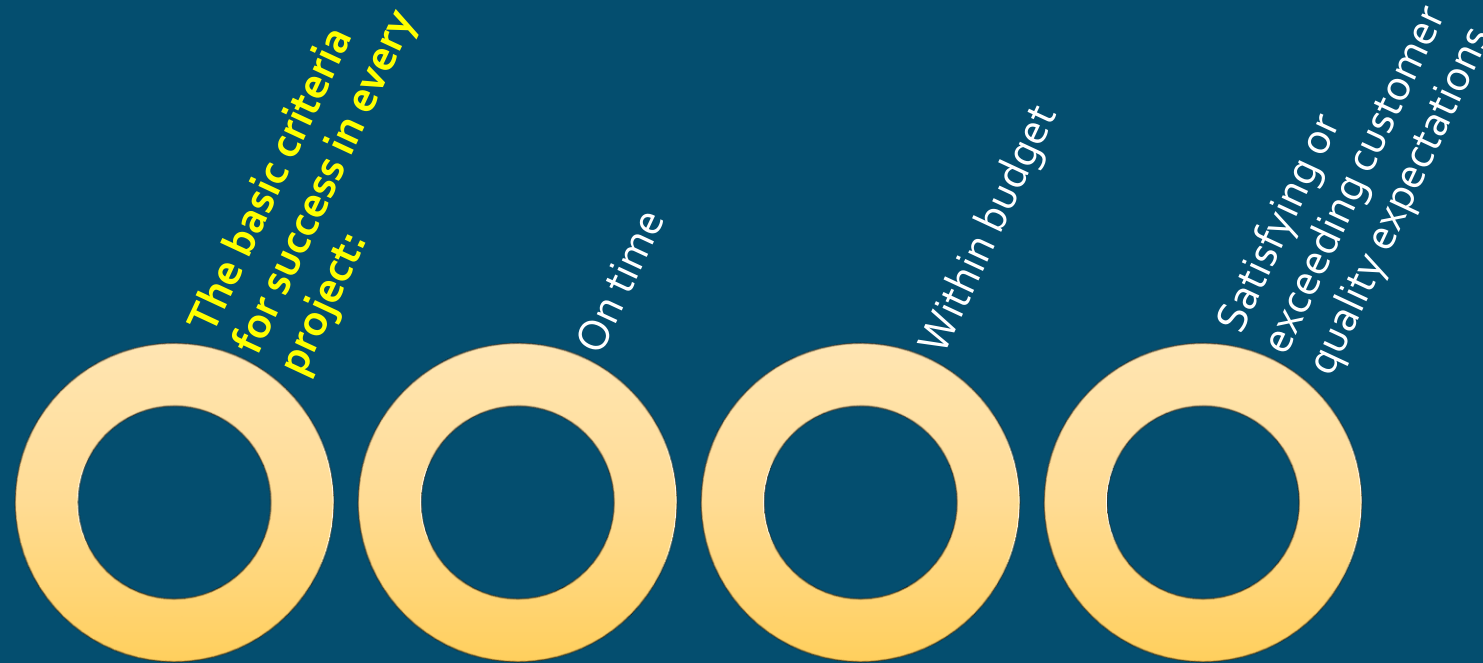
- Leadership
- Teambuilding
- Management
- Delegation
- Estimating & Budgeting
- Risk Management
- Software proficiency
- Scheduling
- Interviewing
- Questioning

- Persuading
- Team Facilitation
- Conflict Resolution
- Negotiation
- Writing
- Presentation
- Upwards, Downwards, and sideways communication
- Technical Skills
- Political Savvy

HOW DO YOU DEFINE SUCCESS?



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY



THE MEANING OF SUCCESS



The Triple Constraints



COMMON PROJECT PROBLEMS

- Dissatisfied customers or stakeholders
- Misunderstood deliverables
- Inappropriate budgets
- Inappropriate schedules
- Overworked or underworked resources

WARNING!

As Project Manager,
it is up to you to
insist that the
proper foundation is
laid during the
initiation phase.

If you are handed a project that is already underway, backtrack and work with the stakeholders to define clear success criteria before moving forward

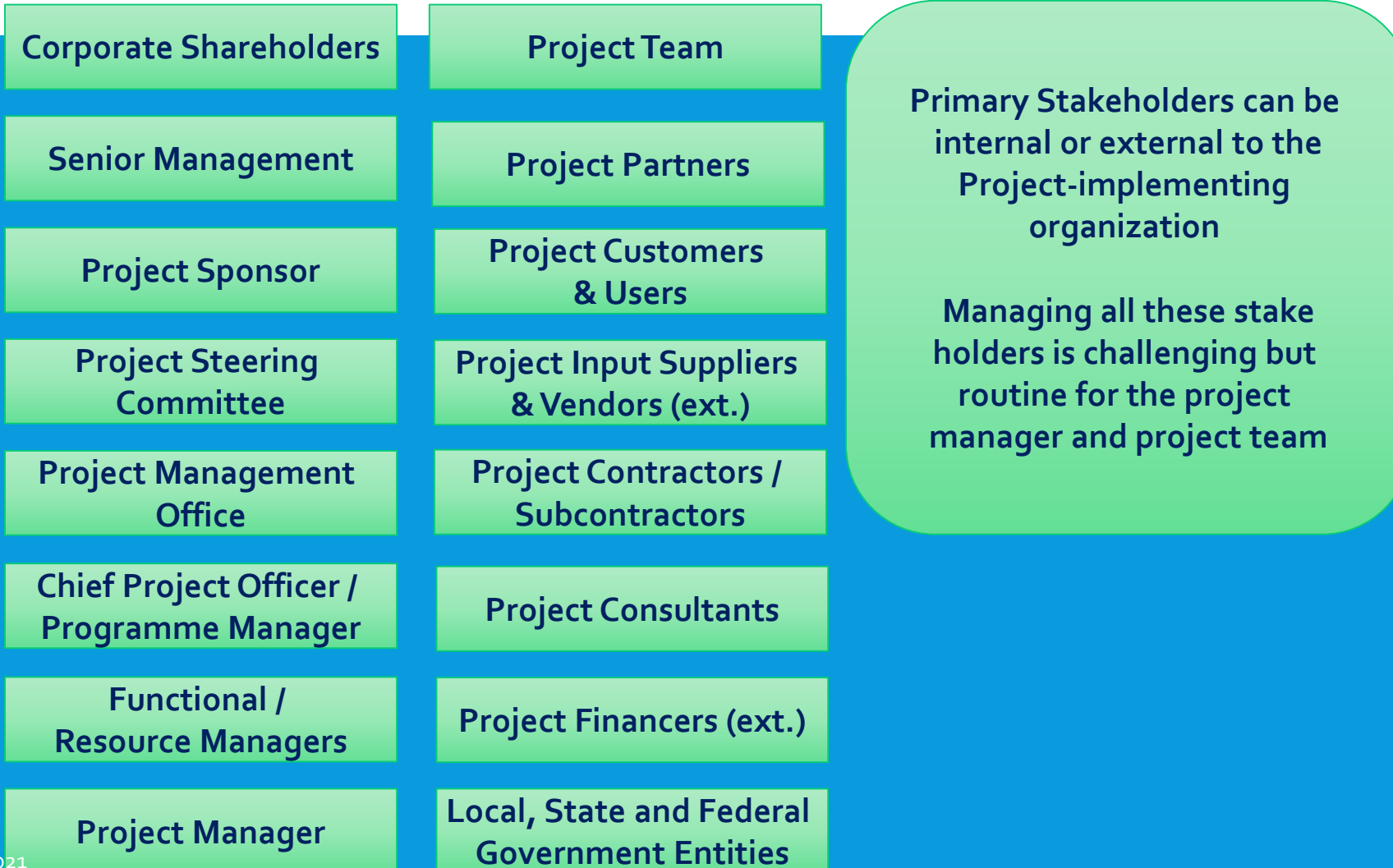
PROJECT DEFINITION AND SCOPE

- How do you define a project?
 1. Stakeholders and their responsibilities
 2. Project purpose
 3. Project Objectives
 4. Project Scope
 5. Project sign-off and review hierarchies
 6. Project reporting and communication plan

PROJECT PRIMARY STAKEHOLDERS: EXAMPLES



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY



PROJECT SECONDARY STAKEHOLDERS: EXAMPLES



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY



VIP STAKEHOLDERS

- **Who is most important?**
 - The group with the money?
 - The group with the most influence?
 - The 'trouble-maker'
 - The group with the biggest network?
 - The group at the end of it all?

PROJECT DEFINITION AND SCOPE

- How do you define a project?
 1. Stakeholders and their responsibilities
 2. Project purpose
 3. Project Objectives
 4. Project Scope
 5. Project sign-off and review hierarchies
 6. Project reporting and communication plan

PROJECT PURPOSE

- Every project needs a purpose statement to lay out why the project exists and what it is supposed to achieve. The Purpose Statement includes two elements:
 - Problem Statement. What problem will the project solve or what opportunity will the project exploit
 - Mission Statement. What approach will be taken, for whom and by when.
- It may take a while to get all the stakeholders to agree on the Purpose Statement.

PROJECT DEFINITION AND SCOPE

- How do you define a project?
 1. Stakeholders and their responsibilities
 2. Project purpose
 3. Project Objectives
 4. Project Scope
 5. Project sign-off and review hierarchies
 6. Project reporting and communication plan

PROJECT GOALS AND OBJECTIVES

- Targets project needs to hit.
 - Indicate how to accomplish project purpose.
 - Express success criteria to be met.
 - Clarifies project's outcome to stakeholders
-
- They should include enough detail so everyone understands:
 - What you intend to do to achieve the project purpose
 - Results you intend to produce
 - What performance levels will be considered acceptable for each result.

GOALS V. OBJECTIVES

Goals

- General
- Intangible
- Broad
- Abstract
- Strategic – long-range direction, set by top executives

Objectives

- Specific
- Measurable
- Narrow
- Concrete
- Tactical – short-range, set by managers to accomplish goals

Although the terms “goals” and “objectives” are often used interchangeably, there is a difference between them:

Some people refer to Objectives as the activities you will carry out and Goals as the success criteria you intend to meet.

PROJECT DEFINITION AND SCOPE

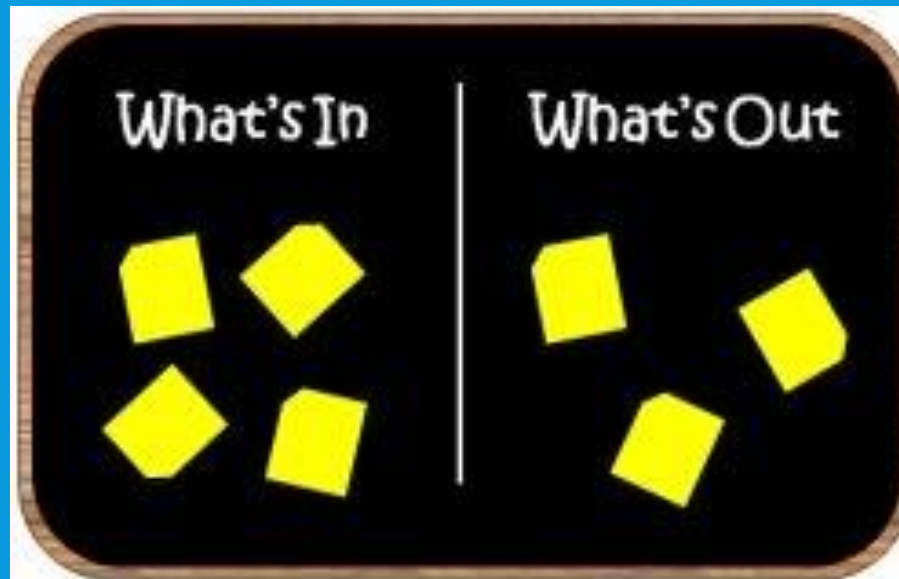
- How do you define a project?
 1. Stakeholders and their responsibilities
 2. Project purpose
 3. Project Objectives
 4. **Project Scope**
 5. Project sign-off and review hierarchies
 6. Project reporting and communication plan

PROJECT SCOPE

A Project Scope Statement explains what is included and what is not included in the project.

It also contains the constraints and assumptions.

Used to avoid Scope Creep.





جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

LECTURE 02 REVIEW

Project Quality Management

DIMENSIONS OF PROJECT QUALITY MANAGEMENT

- Project quality management must address both:
 - The management of the project.
 - The product of the project.

QUALITY VS GRADE

- ❖ **Quality** : *the degree to which a set of inherent characteristics fulfill requirements*
- ❖ **Grade**: *is a category assigned to deliverables have the same functional use but different characteristics*

BOTTOM LINE QUALITY DEFINITION



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Conformance to Specification

THE COST OF QUALITY

2 types of costs:

Unavoidable Costs: preventing defects (inspection, sampling, sorting, QC)

Avoidable Costs: defects and product failures (scrapped materials, labour for re-work, complaint processing, losses from unhappy customers)

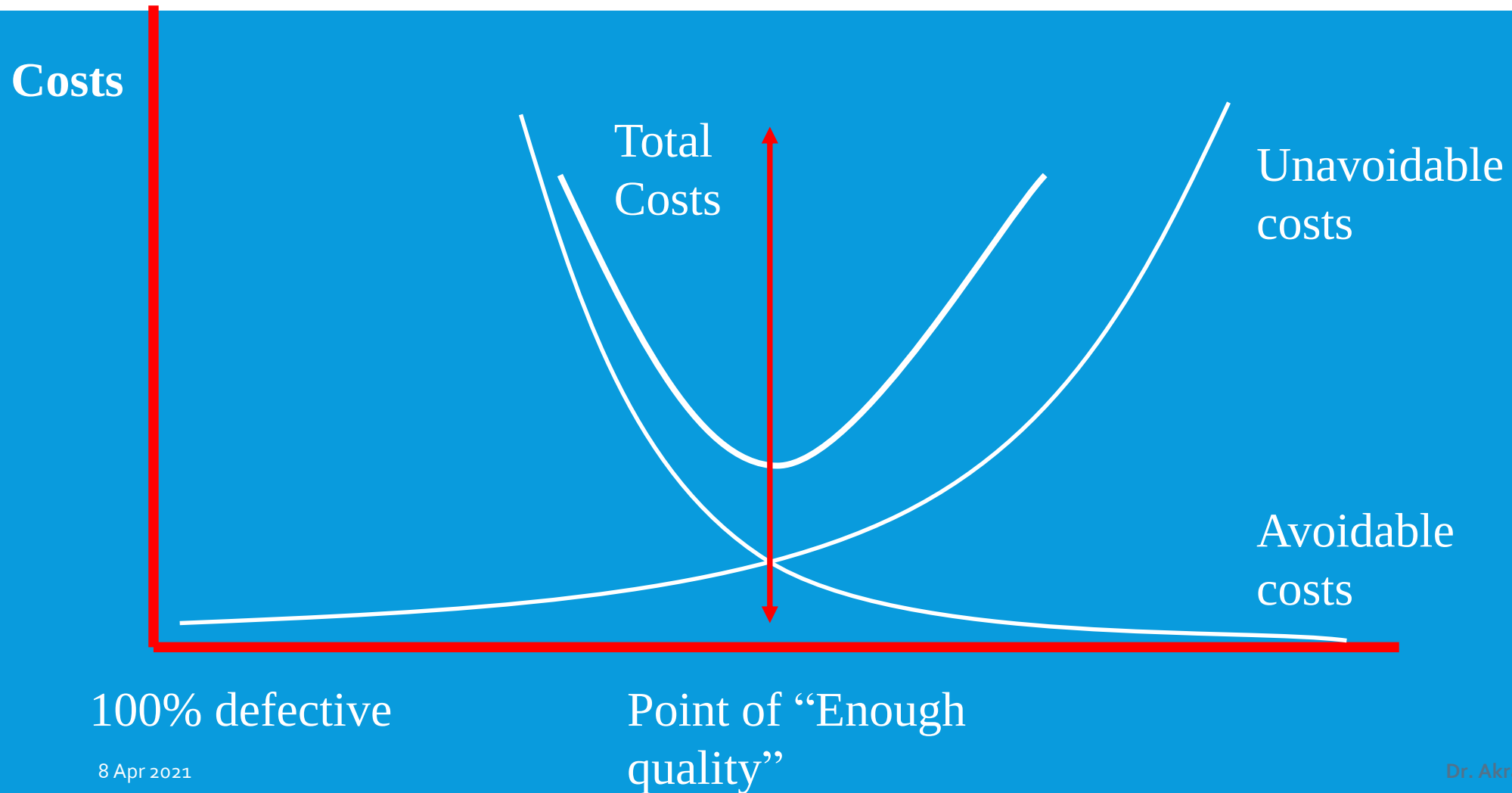
“Gold in the Mine”



THE COST OF QUALITY



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY



MANAGING WITH COSTS OF QUALITY INFORMATION

- Identify activities that generate quality costs
- Measure them
- Report them in a way that is meaningful to managers
- Analyze them to identify areas for improvement

COSTS OF QUALITY

- Traditionally, accounting systems were designed to report inspection and testing costs; other quality-related costs were buried in overhead accounts. However, many experts believe the total costs of quality (COQ) average 20 - 30 percent of sales.
- Definitions:
 - **Prevention costs:** the costs of preventing defects before they happen.
 - **Appraisal costs:** the costs of assessing the level of quality attained by the operating system.
 - **Internal failure costs:** the costs resulting from defects that are discovered before the product or service reaches the end user.
 - **External failure costs:** the costs that result when a defective product or service has been delivered to an end user.

(1) Preventive cost category

- Marketing/Customer/user costs
- Product/Service/Design Developments costs
- Purchasing costs
- Operations (Manufacturing or Service) costs
- Quality Administration costs
- Other Preventive costs.

(2) Appraisal cost category

- Purchasing appraisal costs
- Operations (Manufacturing or service) appraisal costs
- External appraisal costs
- Review of test and inspection data costs
- Miscellaneous quality evaluations

(3) Internal failure cost category

- Product or service design failure costs
- purchasing failure costs
- Operations (product or service) failure costs

(4) External failure cost category

- Complaint investigations of customer or user service
- Returned goods
- Retrofit and recall costs
- Warranty claims
- Liability costs
- Penalties
- Lost sales
- Other external failure costs

CONTENTS OF TYPICAL PROJECT QUALITY PLAN

1. COVER SHEET + REVISION CONTROL

1.1 Document purpose

1.2 Policy statement

2. INTRODUCTION

2.1 Background

2.2 Project Scope

2.3 Project Objectives & Constraints

2.4 QA Standards (Consider putting in Document purpose)

CONTENTS OF TYPICAL PROJECT QUALITY PLAN

3. EXECUTION STRATEGY

- 3.1 Project Management risks.
- 3.2 Critical Activities.
- 3.3 Control Strategy.
- 3.4 Cost & Schedule.
- 3.5 HSE Plan.
- 3.6 Commissioning & Hand-over.

CONTENTS OF TYPICAL PROJECT QUALITY PLAN

4. ORGANISATION, RESPONSIBILITIES & INTERFACES

- 4.1 Table with names
- 4.2 External interfaces
- 4.3 Definition of specific roles and responsibilities.

5. QUALITY REFERENCE SYSTEM

- 5.1 Controlling Documents
- 5.2 Applicable Procedures (Check list based)

6. INTEGRATION OF CONTRACTORS & SUPPLIERS

- 6.1 Define Contractor interfaces.
- 6.2 Contractor + Supplier Quality System.

CONTENTS OF TYPICAL PROJECT QUALITY PLAN

7. AUDITS & REVIEWS

This section should include schedule for all audits and reviews planned during the project execution period

8. QUALITY IMPROVEMENT

8.1 LESSONS LEARNT

8.2 CLOSE-OUT REPORT



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

LECTURE 03 REVIEW

Project Communication and team Management

EFFECTIVE COMMUNICATIONS

Elements of Effective Communications

Message

Coding

Medium

Decoding

Reactions
of recipient

Number of communications
channels

$$N(N-1)/2$$

Oral Communication

8 % words

17 % tone of
voice

75 % body
language

THE COMMUNICATION PLAN ¹

A communication plan helps project manager and stakeholders to understand:

- What information will be communicated
- Who is responsible for communicating it,
- when it will be communicated and updated,
- how it will be communicated, and
- how records will be kept.

THE COMMUNICATION PLAN 2

The communication plan should include

- An outline of what documents will be collected how they will be filed, and where they will be housed.
- A list of documents what will be published, outlining format and content areas, as well as the intended publication medium
- A publication schedule for each document
- A policy statement on how to deal with corrections and updates to published documents.

COMMUNICATION PLAN EXAMPLE 1



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

PROJECT MANAGEMENT OFFICE

Project Communication Plan

Project Title:	
Project Manager:	
Executive Sponsor:	
Principal Stakeholder:	
Date:	

Deliverable Info (What)	Recipient(s) (Who)	Delivery Method(s) (How)	Schedule (When)	Who's Responsible? (Owner)
Project Information	Project Team	Sharepoint Team meetings Conference calls	As needed	Project Manager
Project Status	Project Planner PMO Director	ePortfolio Email	By 12noon every Tue. By noon every Mon.	Project Manager
Agenda/Minutes	Project Team Steering Cmte	Email Sharepoint Team meetings	Monthly	Project Manager
Timeline Update	Steering Cmte Exec. Sponsor Mtgs	Meetings Sharepoint	As needed	Project Manager
Project Updates Action Item Status	Project Manager	Team meetings Email Conference calls	As needed	Project Team
Project Risks	ITEC / Exec. Sponsor Project Steering Cmte OU Steering Cmte Project Team	Risk Document Meeting Minutes	As needed	Project Manager

COMMUNICATION PLAN EXAMPLE 2



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

Communication Management Plan Sample

Communication Type	Objective of Communication	Medium	Frequency	Audience	Owner	Deliverable
Kickoff Meeting	Introduce the project team and the project. Review project objectives and management approach.	•Face to Face	Once	•Project Sponsor •Project Team •Stakeholders	Project Manager	•Agenda •Meeting Minutes
Project Team Meetings	Review status of the project with the team.	•Face to Face •Conference Call	As needed	•Project Team	Project Manager	•Agenda •Meeting Minutes
Monthly Project Status Meetings	Report on the status of the project to management.	•Face to Face presentation •Conference Call	Monthly	•PMO	Project Manager	
Project Status Reports	Report the status of the project including activities, progress, costs and issues.	•Face to Face presentation •Email	Weekly	•Customer •Project Sponsor •Project Team •Stakeholders	Project Manager	•Project Status Report

09/15/12

18

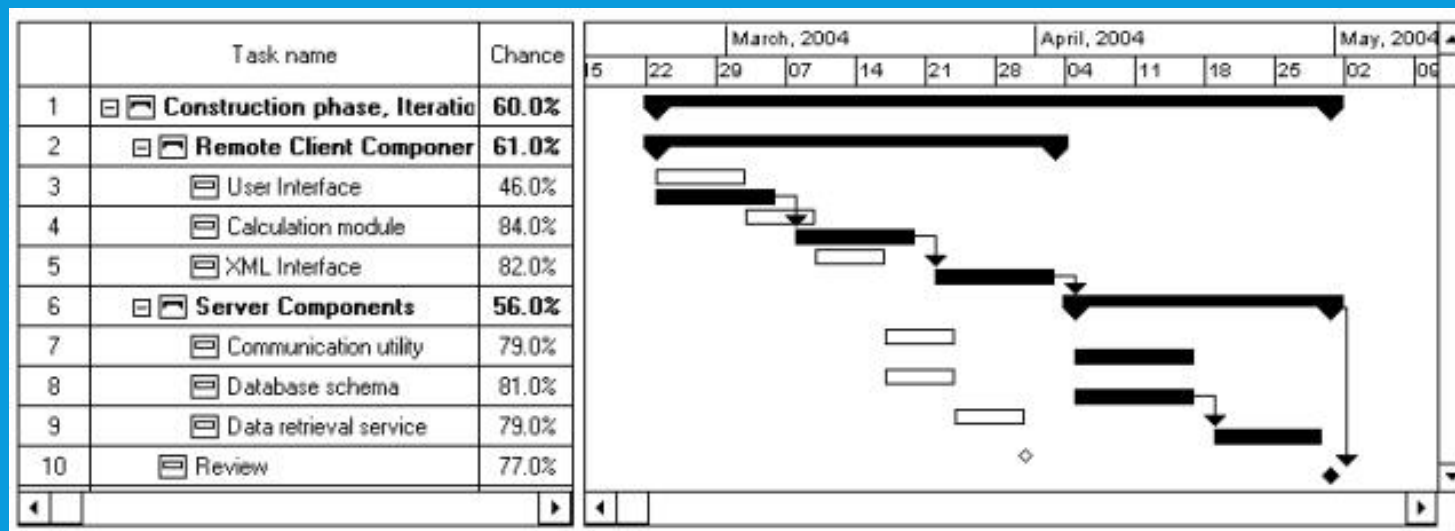
PROJECT PERFORMANCE REPORTS

- Reports should answer these questions

Type of Information	Key Questions
Status	Is the project on target? Are there problems or variances that need to be addressed
Progress	What has the project team accomplished since the last update? Which work packages are complete? Which partially complete? Etc.
Project Forecast	Based on trends, what is the outlook for ongoing status and progress? Are there scope or goal changes that must be made in order to complete the project successfully?

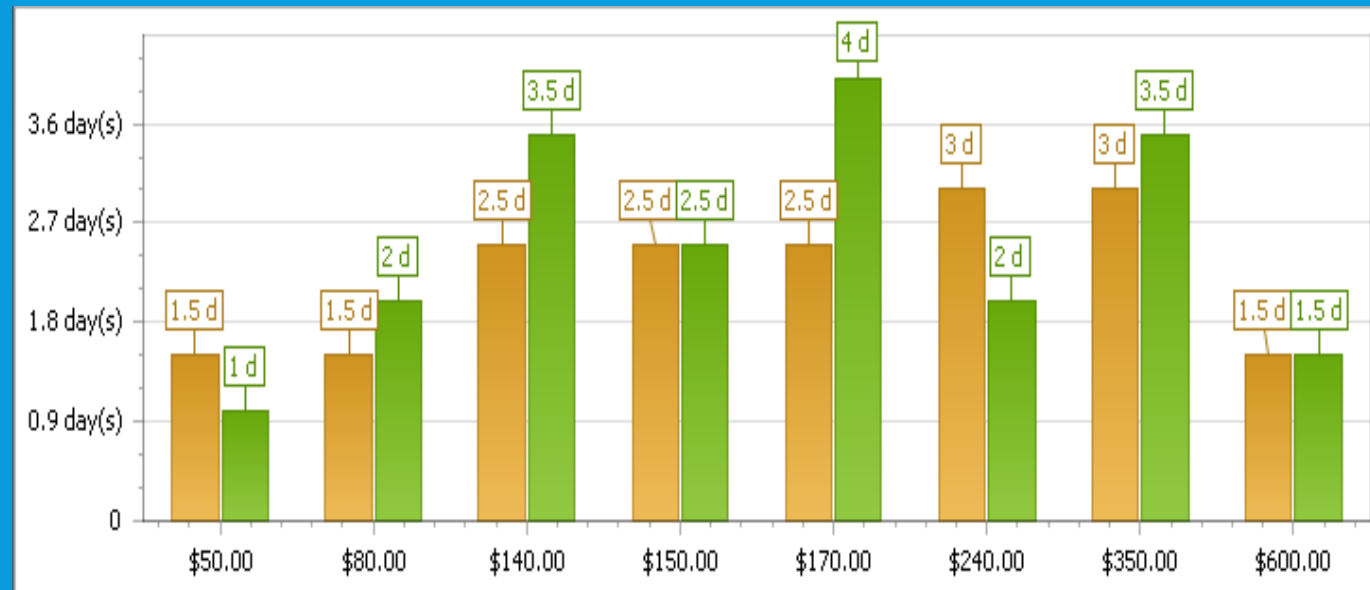
REPORTING FORMATS 1/4

- Gant Chart
 - Visually presents project status
 - Effective way to show project baseline and progress to date
 - Can be used to display simple variance data



REPORTING FORMATS 2/4

- Bar Chart
 - Visually summarizes and highlights key points
 - Can be used to show progress to date
 - Can be used to display simple variance data



REPORTING FORMATS 3/4

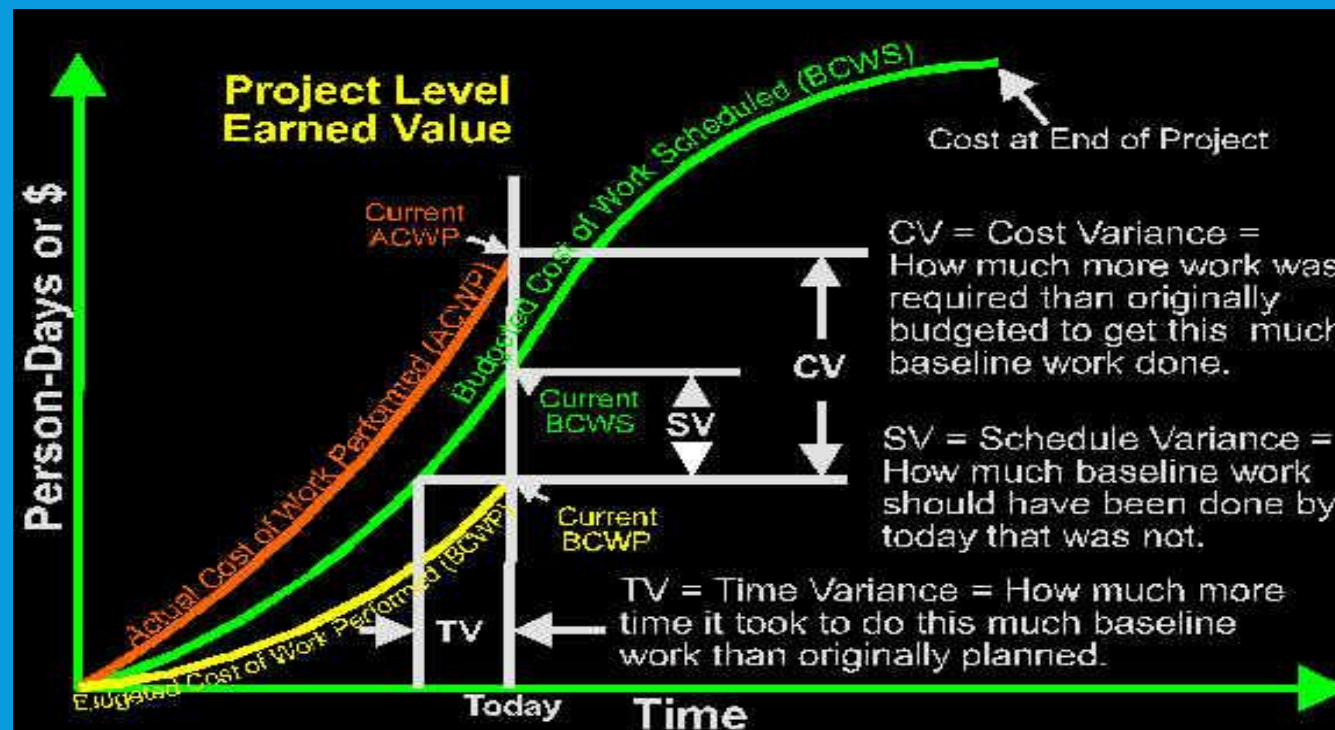
- Table
 - Itemizes information
 - Allows readers to pick out specific data points easily

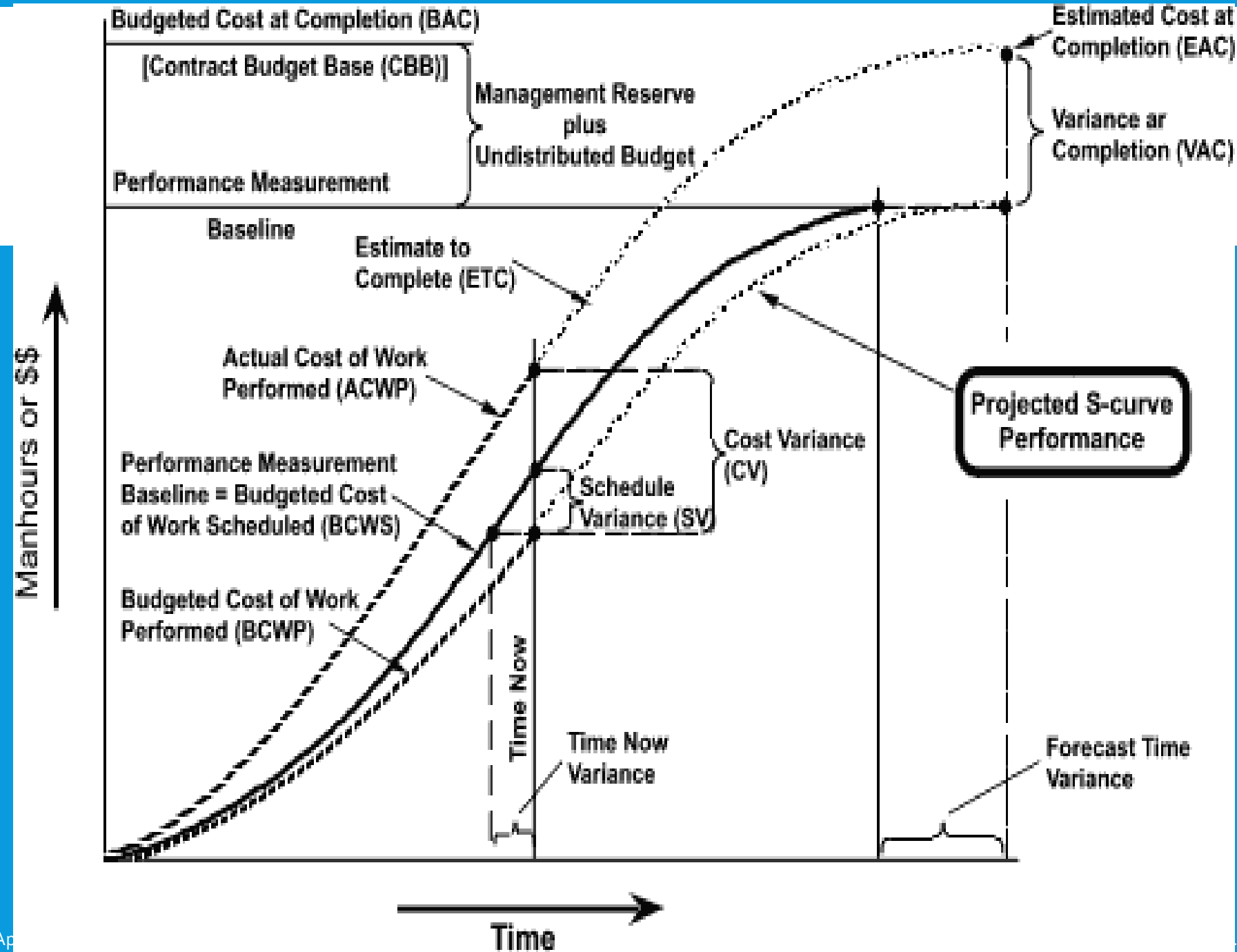
Task	Budget to date (\$)	Actual to Date (\$)	Budget under-run (\$)	Budget over-run (\$)	Total budget (\$)	Estimated at end (\$)
6	6,000	5,000	1,000		7,500	6,500
8	10,000	11,000		1,000	12,000	13,000

REPORTING FORMAT

S-CURVES 4/4

- Visually displays interrelationships between 2 different types of data (for example cost and data)
- Useful for showing cumulative data and forecasting trends





It takes strong players to win
a game. It takes strong **team**
to win a championship
- Michael Jordan

THE TEAMWORK CHALLENGE 2



جامعة الجميع الذكية
EVERYONE'S SMART UNIVERSITY

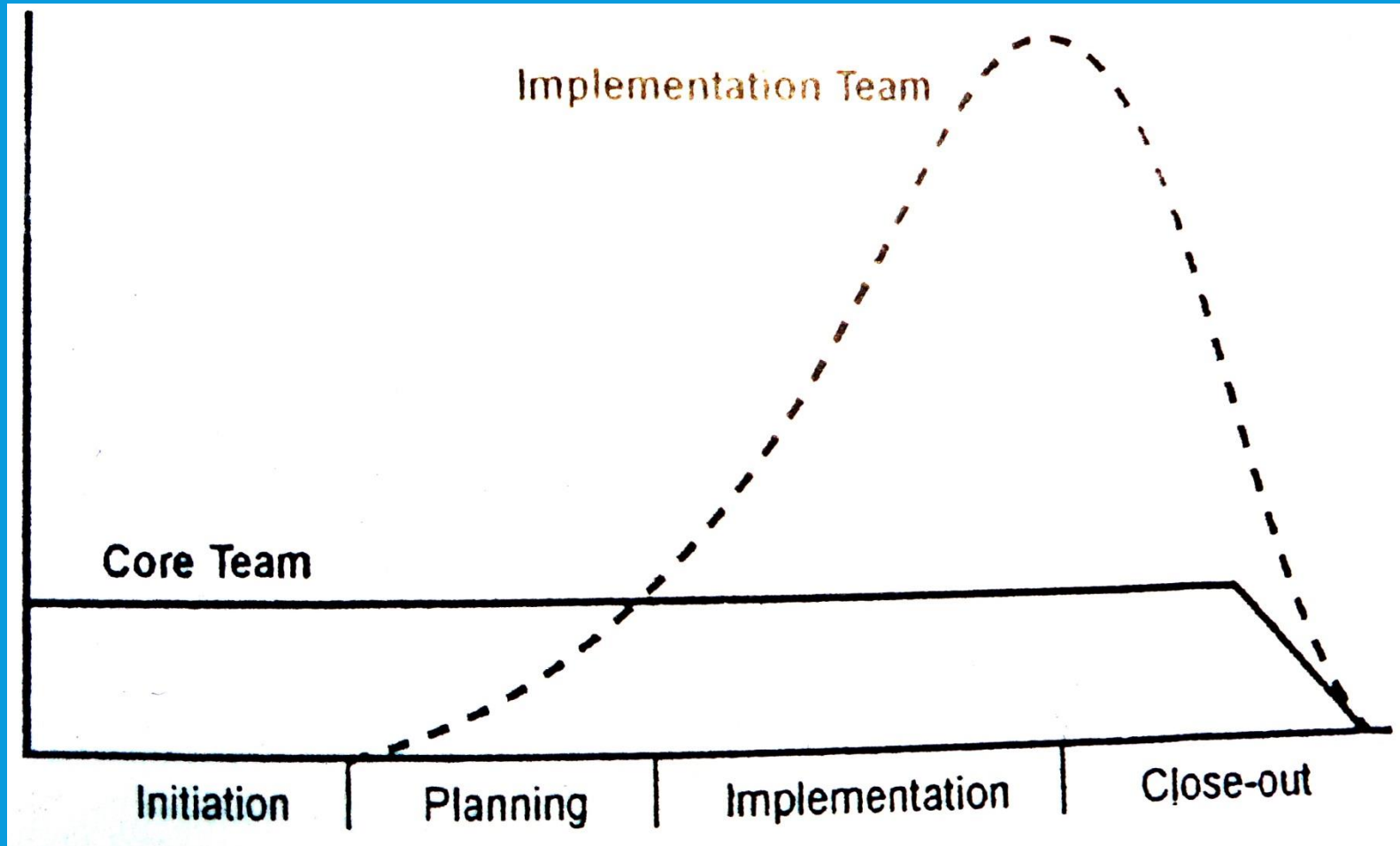
What makes
your group
a team?

Committed to
working together
to reach a
common goal

THE TEAMWORK CHALLENGE 1

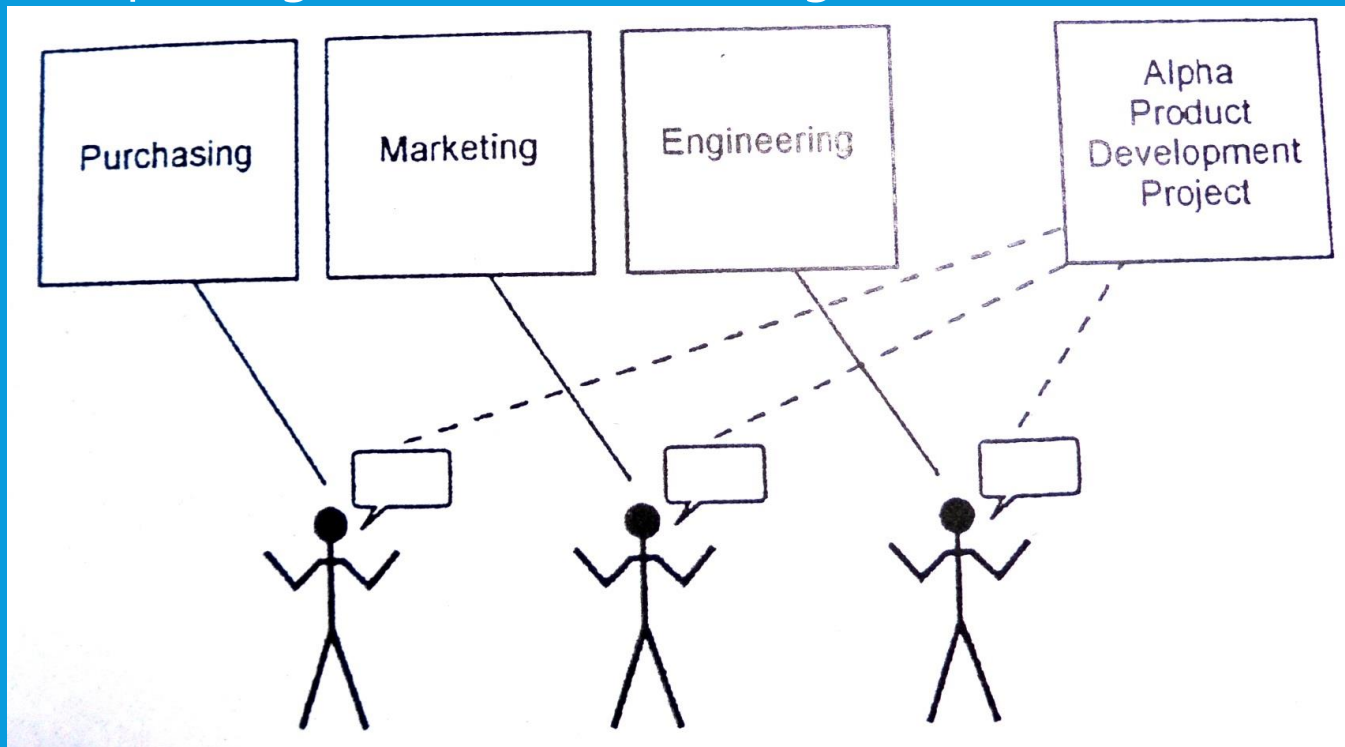
- **Project Team:** Individuals who **collectively** possess the **skills** to do a project, and who are **committed** to **working together** to reach the project goals.
- **Core Team:** Key individuals who represent the major activities that the team will undertake during the project.
- **Implementation Team:** Project team members who help carry out activities planned by the core team.

TEAM MEMBERSHIP DURING PROJECT MANAGEMENT LIFE CYCLE



CORE TEAM MEMBERS

- Picked by stakeholders and occasionally by PM.
- Might be reporting to functional managers



SELECTING TEAM MEMBERS

- Task-related criteria
 - On **small projects** core team members selected based on **ability to accomplish tasks**.
 - On **larger or complex projects**, core team are chosen based on their ability to **manage** those who can accomplish the tasks.

TEAM SELECTION CRITERIA

Skill	Skills level required for job	Supervision req'd for job	Experience level req'd for job	Education level req'd for job	Team member
Cooking	- Main dishes, sauces. - Familiar with Italian ingredients - Can convert from Italian to US metrics	- Ability to work unsupervised but willing to work under direction of Mme. Tosca - Willing to work from recipes	- Minimum 3 yrs as restaurant head chef; small rest. exp. Desirable.	- Culinary School certificate desirable but not required.	- Warren Scampia

DEVELOPING THE TEAM

- Forming
- Storming
- Norming
- Performing
- And
 - Reforming
 - Adjourning
 - Mourning

FORMING

- Become familiar with fellow team member(s)
- Establish team goals
- Provide work assignments

STORMING

- Set goals
- Establish power levels
- Identify leadership roles

NORMING

- Build interpersonal relationships with team members
- Develop a common purpose for the project
- Develop standard operating procedures

PERFORMING

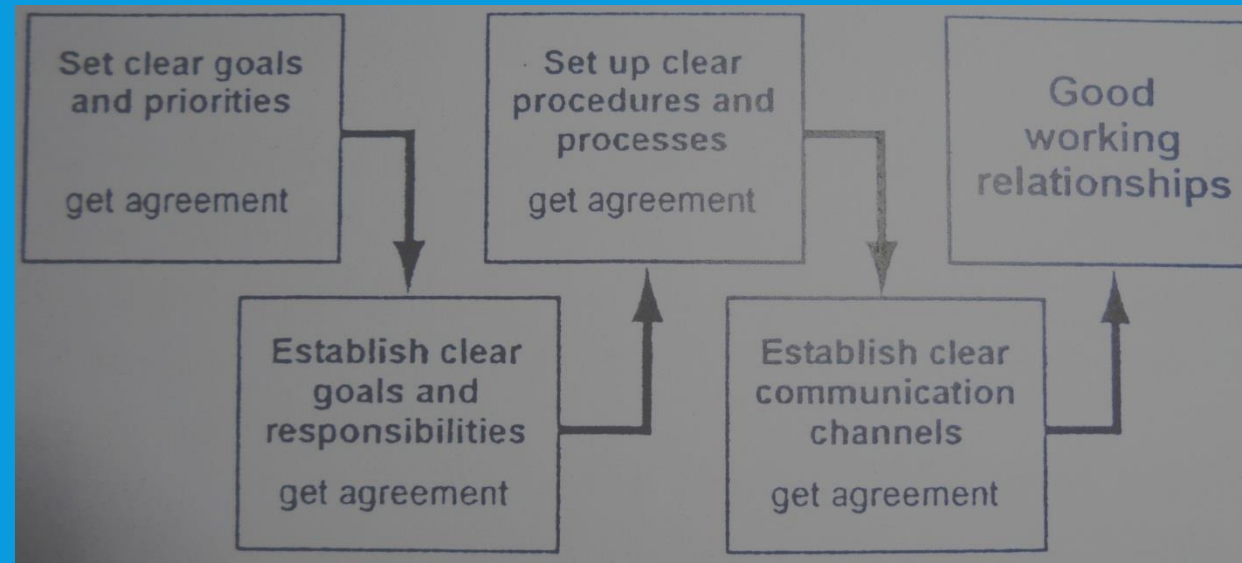
- Start project work
- Stage ends when the project is completed

REFORMING, ADJOURNING, MOURNING

- Complete project assignments
- Team members are released from the project and reassigned
- Different emotional reactions exhibited

GETTING TO "TEAM-HOOD"

- The Keys to creating a strong project team are:
 - Selecting individuals who have the required **skills**, **attitudes** and **time availability**
 - Creating commitment to achieving the project goals
 - Helping team members to learn to trust one another and their cumulative abilities to achieve the project goals



THE TEAM CHARTER

- The Team Charter is a set of rules that the team creates to set a standard of interpersonal behavior. The rules vary based on need, but should include rules about:
 - Meetings
 - Interpersonal behavior
 - Record keeping
 - Decision making
 - Resources
 - Communications

THE TEAM CHARTER

- The Team Charter is a **living document** – create one with:
 - Core Team
 - Implementation Team
 - Sub Teams
- Review the team charter when
 - There is team interpersonal problems
 - Team wishes to change the team rules

SAMPLE TEAM CHARTER 2

What are our Objectives? (Define the purpose and mission of this team.)	Who is Involved? (Define the team members, along with other stakeholders who are held Responsible for the project, Accountable for the results, those who need to be Consulted during the progression and those who need to be kept Informed along the way.)
What are our Goals? (Define how the team will know that they have been successful. Discuss individual values and goals and ensure that they align with the team's.)	Who will do What? (Define the skills, roles and responsibilities of each team member; define who will do what.)
What are our Milestones? (Define the major activities and time frames.)	What are our Expectations? (Discuss team member work styles. Define all expectations, such as 'ground rules', performance, and decision-making processes, etc.)

Signed: (each team member signs the charter, agreeing to hold one another mutually accountable for the content)